IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

1.	(currently amended)A method of data transfer in a hierarchical computer system in which a plurality of systems are interconnected in a hierarchical manner, comprising the steps of:

receiving first data including an item from an upper system in a higher hierarchical level;

updating attribute information corresponding to said item held in a current system in a middle hierarchical level below the higher hierarchical level and adding second data held in said current system to said first data, said attribute information indicating a hierarchical relationship of the hierarchically interconnected system systems included in said hierarchical computer system by which said item is managed; and

sending said second data to said upper system and sending said first data and said second data to a lower system in a lower hierarchical level below the middle hierarchical level.

2.	(original)	The method of data transfer as claimed in claim 1, further comprising the steps of:

if said item included in said received first data exists in said current system, updating said existing item;

changing attribute information for said item held in said current system to a value indicative of common data;

if said item does not exist in said current system, adding said item to said current system; and

changing said attribute information for said item held in said current system to a value indicative of data which is prepared by said upper system.

3.   (original)   The method of data transfer as claimed in claim 1, still further comprising the steps of:

receiving at least one of edit requirements for addition and deletion of said item; and

changing attribute information for said item held in said current system according to the change of said item and item content of said current system corresponding to said item.

4.   (currently amended)A method of data transfer in a hierarchical computer system in which a plurality of systems are interconnected in a hierarchical manner, comprising the steps of:

receiving in a current register first data including an item and data stored in first data coming from a lower system in a lower hierarchical level, said current system being in a middle hierarchical level above said lower hierarchical level;

if said item exists in a database of said current system and attribute information corresponding to said item indicates a value managed by an upper system in a

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higher hierarchical level above said middle hierarchical level, reading data included in said first data and storing the read data into second data, said attribute information indicating hierarchical relationship of the hierarchically interconnected system systems included in said hierarchical computer system by which said item is managed; and

sending said second data to said upper system and said lower system.

5. (original) The method of data transfer as claimed in claim 4, wherein, if said attribute information corresponding to said item indicates a value not managed by said upper system, said data is stored in said current system.

6. (original) The method of data transfer as claimed in claim 1, wherein said first data includes an operation flag indicative of either one of item addition or item deletion, and addition of said item to said current system is determined on the basis of said operation flag and information indicative of existence or absence of said item in said current system.

7. (original) The method of data transfer as claimed in claim 1, wherein said second data holds manager system information indicative of that said item is the data associated with said current system and whether said item is processed or not is determined on the basis of said manager system information.

8. (currently amended)A method of data transfer in a hierarchical

computer system in which a plurality of systems are interconnected in a hierarchical manner comprising the steps of:

receiving in a current register first data including ~~from a lower system~~ an item, ~~and~~ data ~~included in first data~~ and manager system information indicative of whether said item is the data associated with a~~said~~ current system from a lower system;

if said manager system information is the data associated with said current system, updating a content of an item held in said current system by use of said data, said content indicating a hierarchical relationship of the hierarchically interconnected ~~system~~ systems included in said hierarchical computer system by which said item is managed;

if said manager system information has information indicative of another system, deleting the information indicative of said current system;

forming second data by said item, said data, and the manager system information with the information indicative of said current system deleted; and

sending said second data to said lower system and an upper system in a higher hierarchical level above said middle hierarchical level.

9.   (currently amended)A method of data transfer in a hierarchical ~~network~~ computer system, in which a plurality of systems are interconnected in a hierarchical manner, comprising the steps of:

receiving in a current system first data from a lower system in a lower hierarchical level, said current system being in a middle hierarchical level above said lower hierarchical level;

forming second data by an item corresponding to default information held in a said current system and data included in said first data; and

sending said second data to said lower system and an upper system in a higher hierarchical level above said middle hierarchical level.

10. (currently amended)A method of data transfer in a hierarchical network computer system in which a plurality of systems are interconnected in a hierarchical manner, comprising the steps of:

receiving in a current system first data from an upper system in a higher hierarchical level, said hierarchical system being in a middle hierarchical level below the higher hierarchical level;

storing into asaid current system an item included in said first data, said item corresponding to default information held in said current system;

storing data with said item corresponding to said default information of said current system deleted from said first data into second data; and

sending said second data to said upper system and a lower system in a lower hierarchical level below the middle hierarchical level.

11. (original) The method of data transfer as claimed in claim 10, wherein data to be sent to said upper system forms said second data when there is no more data to be sent to said lower system after deleting said item corresponding to said default information of said current system from said first data and said second data is sent to said upper system.

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12. (currently amended)A data transfer apparatus for use in a hierarchical computer system in which a plurality of systems are interconnected in a hierarchical manner, comprising:

a receiving block for receiving in a current system first data including an item from an upper system in a higher hierarchical level;

a merge processing block for updating attribute information corresponding to said item and held in a current system in a middle hierarchical level below the higher hierarchical level and adding second data held in said current system to said first data, said attribute information indicating a hierarchical relationship of the hierarchically interconnected system systems included in said hierarchical computer system by which said item is managed; and

a sending block for sending said second data to said upper system and sending said first data and said second data to a lower system in a lower hierarchical level below the middle hierarchical level.

13. (original) The data transfer apparatus as claimed in claim 12, wherein said merge processing block updates said existing item, if said item included in said received first data exists in said current system; changes attribute information for said item held in said current system to a value indicative of common data; adds said item to said current system, if said item does not exist in said current system; and changes said attribute information for said item held in said current system to a value indicative of data which is prepared by said upper system.

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14.   (original)   The data transfer apparatus as claimed in claim 12, further comprising:

an edit processing block for receiving at least one of edit requirements for addition and deletion of said item and changing attribute information for said item held in current system according to the change of said item and item content of said current system corresponding to said item.

15.   (currently amended)A data transfer apparatus for use in a hierarchical computer system in which a plurality of systems are interconnected in a hierarchical manner, comprising:

a receiving block for receiving in a current register first data including an item and data stored in first data coming from a lower system in a lower hierarchical level, said current system being in a middle hierarchical level above said lower hierarchical level;

an update processing block for, if said item exists in a database of a current system and attribute information corresponding to said item indicates a value managed by an upper system in a higher hierarchical level above said middle hierarchical level, reading said data included in said first data and storing the read data into second data, said attribute information indicating a hierarchical relationship of the hierarchically interconnected system systems included in said hierarchical computer system by which said item is managed; and

a sending block for sending said second data to said upper system and said

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lower system.

16. (original) The data transfer apparatus as claimed in claim 15, wherein, if said attribute information corresponding to said item is a value indicative of common manager item, said updating processing block stores said data into said current system.

17. (original) The data transfer apparatus as claimed in claim 12, wherein said first data includes an operation flag indicative of either one of item addition or item deletion, and said merge processing block determines whether or not to add said item to said current system on the basis of said operation flag.

18. (original) The data transfer apparatus as claimed in claim 12, wherein said second data holds manager system information indicating that said item is data associated with said current system and said merge processing block determines whether or not to process said item on the basis of said manager system information.

19. (original) A recording medium readable by a computer storing a program for executing the data transfer method cited in claim 1.

20. (original) A recording medium readable by a computer storing a program for executing the data transfer method cited in claim 2.

21. (currently amended)A method of data transfer in a hierarchical

computer system, said hierarchical computer system including a plurality of

computers interconnected to each other in a hierarchical manner, comprising the

steps of:

holding items of information to be managed and attribute information

corresponding to said items in a current computer in a middle hierarchical leveleach

of said computers, said attribute information indicating a hierarchical relationship of

the system hierarchically interconnected computer by which said item is managed;

determining whether or not response result from a lower computer in a lower

hierarchical level below said middle hierarchical level for information acquisition

requirement related to an item of said managed information is to be transferred to a

upper computer in a higher hierarchical level above said middle hierarchical level

according to said attribute information;

when said information acquisition requirement is issued from ansaid upper

computer to saida lower computer via asaid current computer, receiving by said

current computer data including items of information managed by said upper

computer;

when items of information managed by said current computer exist in items,

included in said data, of information managed by said upper computer, updating

attribute information corresponding to items, included in said data, of information

managed by said upper computer from a first value indicative that said item is

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managed by said current computer to a second value indicative that said item is a common item common to said upper computer and said current computer;

when items of information managed by said current computer do not exist in items, included in said data, of information managed by said upper computer, adding items of information managed by said current computer to said data; and

sending, to said upper and lower ~~computer~~computers, information acquisition requirement including data that items of information managed by said current computer are added to said data.

22.   (new) A method of data transfer in a hierarchical computer system in which a plurality of systems are interconnected in a hierarchical manner, comprising the steps of:

defining previously at least one of default items in a current system in a middle level of the hierarchical computer system;

receiving an item file from an upper system in a higher hierarchical level above the middle hierarchical level;

deleting all of items and data stored in a default data base of the current system;

storing the default items and data corresponding to the default items which coincide with items of the item file, to the default data base of the current system; and

sending items of the item file other than the default items to a lower system in a lower hierarchical level below the middle hierarchical level.

23. (new) A method of data transfer in a hierarchical computer system in which a plurality of systems are interconnected in a hierarchical manner, comprising the steps of:

defining previously at least one of default items in a current system in a middle level of the hierarchical computer system;

receiving a result file from a lower system in a lower hierarchical level below the middle hierarchical level;

adding the default items and default data corresponding to the default items stored in a default data base of the current system, to the result file; and

sending the result file to an upper system in a higher hierarchical level above the middle hierarchical level.

24. (new) A method of data transfer in a hierarchical computer system in which a plurality of systems are interconnected in a hierarchical manner, comprising the steps of:

defining previously at least one of default items in a current system in a middle level of the hierarchical computer system;

receiving an item file from an upper system in a higher hierarchical level above the middle hierarchical level;

deleting all of items and data stored in a default data base of the current system;

storing the default items and data corresponding to the default items which coincide with items of the item file, to the default data base of the current system;

generating a result file by using the default items and the data corresponding to the default items derived from the default data base when there is no more item to be sent to a lower system in a lower hierarchical level below the middle hierarchical level; and

sending the result file to the upper system.

25. (new) A data transfer apparatus for use in a hierarchical computer system in which a plurality of systems are interconnected in a hierarchical manner, comprising:

means for defining previously at least one of default items in a current system in a middle level of the hierarchical computer system;

means for receiving an item file from an upper system in a higher hierarchical level above the middle hierarchical level;

means for deleting all of items and data stored in a default data base of the current system;

means for storing the default items and data corresponding to the default items which coincide with items of the item file, to the default data base of the current system; and

means for sending items of the item file other than the default items to a lower system in a lower hierarchical level below the middle hierarchical level.

26. (new) A data transfer apparatus for use in a hierarchical computer system in which a plurality of systems are interconnected in a hierarchical manner, comprising:

means for defining previously at least one of default items in a current system in a middle level of the hierarchical computer system;

means for receiving a result file from a lower system in a lower hierarchical level below the middle hierarchical level;

means for adding the default items and default data corresponding to the default items stored in a default data base of the current system, to the result file; and

means for sending the result file to an upper system in a higher hierarchical level above the middle hierarchical level.

27. (new) A data transfer apparatus for use in a hierarchical computer system in which a plurality of systems are interconnected in a hierarchical manner, comprising:

means for defining previously at least one of default items in a current system in a middle level of the hierarchical computer system;

means for receiving an item file from an upper system in a higher hierarchical level above the middle hierarchical level;

means for deleting all of items and data stored in a default data base of the current system;

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means for storing the default items and data corresponding to the default items which coincide with items of the item file, to the default data base of the current system;

means for generating a result file by using the default items and the data corresponding to the default items derived from the default data base when there is no more item to be sent to a lower system in a lower hierarchical level below the middle hierarchical level; and

means for sending the result file to the upper system.

28.   (new) A recording medium readable by a computer storing a program for executing a data transfer method in a hierarchical computer system in which a plurality of systems are interconnected in a hierarchical manner, the method comprising the steps of:

defining previously at least one of default items in a current system in a middle level of the hierarchical computer system;

receiving an item file from an upper system in a higher hierarchical level above the middle hierarchical level;

deleting all of items and data stored in a default data base of the current system;

storing the default items and data corresponding to the default items which coincide with items of the item file, to the default data base of the current system; and

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sending items of the item file other than the default items to a lower system in a lower hierarchical level below the middle hierarchical level.

29.   (new) A recording medium readable by a computer storing a program for executing a data transfer method in a hierarchical computer system, the method comprising the steps of:

defining previously at-least one of default items in a current system in a middle level of the hierarchical computer system;

receiving a result file from a lower system in a lower hierarchical level below the middle hierarchical level;

adding the default items and default data corresponding to the default items stored in a default data base of the current system, to the result file; and

sending the result file to an upper system in a higher hierarchical level above the middle hierarchical level.

30.   (new) A recording medium readable by a computer storing a program for executing a data transfer method in a hierarchical computer system, the method comprising the steps of:

defining previously at least one of default items in a current system in a middle level of the hierarchical computer system;

receiving an item file from an upper system in a higher hierarchical level above the middle hierarchical level;

deleting all of items and data stored in a default data base of the current

system;

storing the default items and data corresponding to the default items which

coincide with items of the item file, to the default data base of the current system;

generating a result file by using the default items and the data corresponding

to the default items derived from the default data base when there is no more item to

be sent to a lower system in a lower hierarchical level below the middle hierarchical

level; and

sending the result file to the upper system.